

FORM PTO-1390 (Modified)
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U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

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TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371

00977-US

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR

N/A 10/049408

INTERNATIONAL APPLICATION NO.

PCT/US00/22442

INTERNATIONAL FILING DATE

08/16/2000

PRIORITY DATE CLAIMED

08/16/1999

TITLE OF INVENTION

VIRTUAL DESIGN STUDIO SYSTEM

APPLICANT(S) FOR DO/EO/US

MARK LAWRENCE

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (24) indicated below.
4. ☐ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))
 - a. ☐ is attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ has been communicated by the International Bureau.
 - c. ☒ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
 - a. ☐ is attached hereto.
 - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
 - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ have been communicated by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☒ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
10. ☐ An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).
11. ☒ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
12. ☒ A copy of the International Search Report (PCT/ISA/210).

Items 13 to 20 below concern document(s) or information included:

13. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☐ A **FIRST** preliminary amendment.
16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
17. ☐ A substitute specification.
18. ☐ A change of power of attorney and/or address letter.
19. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
20. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
21. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
22. ☒ Certificate of Mailing by Express Mail
23. ☐ Other items or information:

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR N/A) 10/049408		INTERNATIONAL APPLICATION NO. PCT/US00/22442		ATTORNEY'S DOCKET NUMBER 00977-US	
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24. The following fees are submitted: BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) : <input type="checkbox"/> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$1000.00 <input checked="" type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$890.00 <input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$710.00 <input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$690.00 <input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00 ENTER APPROPRIATE BASIC FEE AMOUNT =				CALCULATIONS PTO USE ONLY <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> \$890.00 </div>	
Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492 (e)).					
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	23 - 20 =	0	x \$18.00	54.00	
Independent claims	- 3 =	0	x \$80.00	0.00	
Multiple Dependent Claims (check if applicable). <input type="checkbox"/>					
TOTAL OF ABOVE CALCULATIONS =				944.00	
<input checked="" type="checkbox"/> Applicant claims small entity status. (See 37 CFR 1.27). The fees indicated above are reduced by 1/2.				472.00	
SUBTOTAL =				472.00	
Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492 (f)).				0.00	
TOTAL NATIONAL FEE =				472.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable). <input type="checkbox"/>				0.00	
TOTAL FEES ENCLOSED =				472.00	
				Amount to be:	\$
				refunded	\$
				charged	\$

a. ☒ A check in the amount of \$472.00 to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. _____ in the amount of _____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☐ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. _____. A duplicate copy of this sheet is enclosed.

d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

James G. O'Neill
 3151 Airway Avenue, Suite K-105
 Costa Mesa, CA 92626
 Tel: 714/549-8609
 Fax: 714/549-8626

James G. O'Neill
SIGNATURE

James G. O'Neill
NAME

22,858
REGISTRATION NUMBER

February 5, 2002
DATE

VIRTUAL DESIGN STUDIO SYSTEM

BACKGROUND OF THE INVENTION

1. Field of the Invention

5 This invention relates generally to the design and market testing of goods or services. More particularly, this invention relates to the use of an on-line network web site for interactive design of goods and services and identification of the designs, which may be purchased by a user or others. The invention also includes the submission of designs by users for inclusion in collections, for
10 discussion and review, for previewing of designs to sample or purchase, and for the manufacture of designed goods.

2. Description of Related Art

Numerous types of on-line systems are known for ordering or purchasing products. Such systems include those which provide immediate payment for
15 computer users in exchange for viewing an on-line advertisements, or for on-line shoppers who can earn "frequent-buyer" points by making purchases from merchants affiliated with an award program. Additionally, on-line systems are known that allow consumers to name the price that they are willing to pay for a product in an on-line auction, and for marketing, purchasing of and paying for
20 a product, as well as electronic shopping carts to collect items for purchase during an on-line shopping trip.

None of the known systems, however, provide a design or design studio and market test approach, wherein goods or services may be designed by a user for purchase by themselves or others, and which system also allows for market
25 testing and manufacture of designed goods, submission of designs for inclusion in collections, or the like, for discussion, and for sampling and reviewing.

SUMMARY OF THE INVENTION

Accordingly, it is a general object of the present invention to provide an on-line design system. It is a particular object of the present invention to
30 provide an improved on-line virtual design studio for designing goods or

services. It is another particular object of the present invention to provide an improved on-line system that allows the submission of designs for market testing, and for other users to sample and review. It is yet another particular object of the present invention to provide an improved on-line system that allows sampling of one's own simulated designs and simulations of designs by others in different simulated settings. It is yet a further particular object of the present invention to provide an improved on-line system for purchasing one's own designs and/or designs by others. It is yet a still further particular object of the present invention to provide an improved on-line system that has the ability to provide credit to approved users, based on frequent visits, under specific conditions. It is a still further particular object of the present invention to provide an improved on-line system that enables approved users to include their designs in a collection, such as a store, portfolio, show, or the like. And, it is yet another further particular object of the present invention to provide an improved on-line design system having a program portion that allows suppliers to manufacture or have manufactured, approved designs.

According to one aspect of the present invention, there is provided a system whereby users may access a web site over the internet, and upon approval, browse through a virtual design studio to design their own goods or services either alone, or combined with designs of others in a catalog, show, studio, portfolio, store, or the like. The present invention also enables authorized users to sample and purchase designs by other users, or to redesign or customize goods or services to their liking for purchase. Additionally, the present invention further provides for the authorization to manufacture created designs. The program also allows authorized users to amass frequent visit credits when utilizing the web site, under specific conditions, which credits may be used toward purchase of designs.

BRIEF DESCRIPTION OF THE DRAWINGS

The objects and features of the present invention, which are believed to be novel, are set forth with particularity in the appended claims. The present

invention, both as to its organization and manner of operation, together with further objects and advantages, may best be understood by reference to the following description, taken in connection with the accompanying drawings, in which:

5 FIG. 1 is a flow chart showing a preferred embodiment of a design studio part of the program of the present invention;

 FIG. 2 is a flow chart of a further embodiment of the design studio part of the program of the present invention;

10 FIG. 3 is a flow chart of a smart filter business model utilizing the design studio program of the present invention;

 FIG. 4 is a flow chart showing a manufacturer's sign-up part of the program of the present invention;

 FIG. 5 is a flow chart showing a manufacturer order bidding part of the program of the present invention; and

15 FIG. 6 is a flow chart showing a business model part of the program and how an object is assembled utilizing the program of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

20 The following description is provided to enable any person skilled in the art to make and use the invention, and sets forth the best modes contemplated by the inventor of carrying out his invention. Various modifications, however, will remain readily apparent to those skilled in the art, since the generic principles of the present invention have been defined herein, specifically to provide for an improved on-line based design studio program, generally indicated at 10.

25 For purposes of this application, the on-line virtual program of the present invention will be referred to as "4u2Design" or "4u2DesignStudio", and includes sub-programs referred to as Smart Filter, "4u2Manufacture" and "4u2Model".

Definition of Terms

30 As used herein, the indicated terms are given the following definitions:

- 1) "Internet" means the Internet, World Wide Web, Intranet, Extranet or other medium that enables a user to access and browse the 4u2Design Studio program or the SmartFilter, 4u2Manufacture and 4u2Model extensions thereof.
- 2) "Business model" is a program or way of doing business.
- 5 3) "4u2Design" is an Internet web site that enables users to design goods and services.
- 4) "SmartFilter" is a part of the 4u2Design Studio program that allows a supplier to outsource design and/or product selection to its potential customers or an equivalent external party.
- 10 5) "4u2Manufacture" is a program part that enables distributors to list their demand for specific goods and services and allows manufacturers to bid to produce and fulfill specific orders.
- 6) "4u2Model" is a program part that enables customers to sample electronic goods and services in a simulation of the setting of their choice.
- 15 7) "Frequent visitor" is a program part that enables web site owners to give users credit for the number of visits to their web site and the length of time spent interacting with the web site, and affiliated entities, under specific conditions.
- 8) "Distributor" is an individual, company or entity that acquires goods or
20 services from manufacturers and distributes those goods or services to the distributor's customers.
- 9) "Supplier" is the owner of the 4u2Design Studio or an affiliate of that owner.
- 10) "User" is an individual, company or entity that visits the 4u2Design Studio.
- 25 11) "Potential user" refers to current users and potential users that may use the 4u2Design Studio in the future.
- 12) "Collection" is a forum where users can aggregate designs, such as in a catalog, portfolio, show, store etc.
- 13) "Catalog" is an aggregation of designs that may have a thumbnail
30 representation of each design and no motion components.

14) "Portfolio" is an aggregation of designs where each design may have individual motion components.

15) "Show" is an aggregation of designs that may include motion that interlinks different designs as well as individual motion components.

5 16) "Store" is an aggregation of designs that is aimed at a particular target market. A store may be owned by an entity that is otherwise unaffiliated with a supplier.

17) "Review" is a forum that allows a user, or limited group of users, to critique designs.

10 18) "Sample" is a process by which a user can experience a simulation of a design.

19) "Object" is the environment in which a user will sample a design. For example, a room can be the object for furniture and a mannequin can be the object for clothes.

15 20) "Publish" is used to indicate that a user regards a design as complete and available for inclusion in a collection. A user can publish a design to a number of locations, such as a catalog, portfolio, show, store, private warehouse, etc.

20 21) "Warehouse" is a private area where users can store partial and complete designs. Users can prevent third parties from accessing their private warehouse.

22) "Message" is an advertisement, a sequence of advertisements, or an alternative communication that appears on a computer screen when a user accesses the 4u2Design Studio, 4u2Manufacture, etc. over the Internet.

25 23) "Sponsor" is a company, individual or organization that wants to send a message to a target market that may, or may not, include users of the 4u2Design Studio.

24) "4u2Shop Mall" is an online shopping mall that allows users to visit various stores to browse, sample and purchase designs.

30 25) "Product group" is a type of product or service. For example, furniture is

one type of product group and clothes are another type of product group.

26] "Mass customization" is a process that enables a distributor to offer orders to a number of manufacturers, who bid to drive down the wholesale price. Each manufacturer can aggregate individual orders with existing production runs to achieve scale economies that drive down costs.

4u2Design Studio

The 4u2Design Studio is part of a program 10 of the present invention at a web site accessed over the internet so that a user may design goods for purchase by themselves or others. The program 10 may also be used to submit designs for inclusion into collections, such as a portfolio, a show, a review, etc., or to discuss, sample and review design interests. Or, the program 10 may be used to market test designs, or browse the 4u2 Shop Mall to sample and purchase original designs.

As described more fully below, in the design mode, the 4u2Design Studio program 10 allows users to design and market test a variety of goods and services, such as clothes, music, pictures, furniture, curtains, bedspreads, industrial goods, other programs or business models, etc. The design process entails a number of selected steps. For example, when designing clothes in the virtual design studio, one or more of the following steps, as more clearly set forth below, would be utilized.

Referring now to the flow chart of FIG. 1, there indicated is a preferred method of how a user on a computer, or other on-line network connection device, may access the web site 4u2Design.com, to utilize the program 10 of the present invention. In FIG. 1, 11 indicates access to the web site via an on-line provider or some other acceptable way, in a known manner, so that a user may log on to the web site, as indicated by 12. During log on, information about the user is collected and a frequent visitor counter or clock 14 is activated. That is, at registration 16, information about the user is collected, so as to create or change a profile, or update a profile 17. Any necessary authorization 26 is also requested. If the user profile is OK 27 and authorization is accepted, any

desired changes are entered in a data base 29, the user frequent visitor counter 14 set, and the authorized user allowed to browse the studio 31. A user will then select from a number of options, such as a new design 18, continue an existing design 20, redesign a previously published or stored design 22, to sample and/or view of designs, visit the 4u2 Shop Mall 24, etc. If a user has the proper authorization provided by the program, the user may sample, edit, buy, delete, and otherwise access a given designer's designs. With the proper authorization, the user may make a selection of a product group 28. This allows the user to select from the available list of product groups, or create the type of offering that the user wishes to design. Such designs may include one or more dimensions of an object 30, by either selecting from an available list of objects, or creating the type of object and its dimensions, such as a room (for furniture), a window (for curtains), a mannequin for (clothes), etc. Selection of size 32 allows the user to select from an available list of sizes, or to specify the size of an item, such as large, medium or small and the actual size in centimeters, inches, or the like. Selection of style 34 allows the user to select from available list of styles, or to create a style, such as baggy, tight fit, etc. Selection of materials 36 allows the user to select from an available list of materials, or to specify unique materials for each component of the product and any accessories. Selection of accessories 38 allows the user to select from an available list of accessories, or to create accessories that complement or complete the main product designed. The selection of patterns 40 allows the user to select from an available list of patterns, or to create a pattern from each component of the product and accessories being designed. Selection of colors 42 allows the user to select from an available list of colors, or to create their own combination of colors for each component of the product and any accessories. The design may then be automatically sampled 44 and, if acceptable, added to Favorites 46 in an acceptable storage media. After all changes are made 48, the end design may be sampled 50. The sampling allows the user to sample the simulation of the completed design in a variety of

environments. For example, the user may sample a simulation of a design from a number of angles and elevations, in varying lights, superimposed on specific or generic objects, etc. The user may also define how other users sample their design when such a user is authorized and chooses to view the design in automatic sampling mode 44. The acceptable designs may be stored, as by being added to favorites 46 or in a private warehouse 52, only accessible to users authorized by the original designer. The designs in storage may be partial or complete, or may be used for modifying, or deleting other designs. Publication of a design 54 allows a designer to submit a design for sampling and review by other users. Such published designs may be included in areas, such as favorites 56, catalog 58, portfolio 60, show 62, or may be otherwise stored, as indicated by 64, for use at a later time, for example, with continue design 20 or redesign 22. Any design may be discarded 66 by an authorized user, either partially or completely, so long as any such design being used by a supplier is agreed to be discarded by the supplier. Favorite designs 56 in storage, whether entire designs or sub-components are readily available to a designer, and easily retrieved for use to save time when designing other goods and/or services.

Continuation Mode

As shown in FIG. 1, in "Continue Design" 20, the 4u2Design Studio part of the program allows users, with proper authorization to find a "design in progress". The user can then edit, publish, discard etc. the design, as if they are in design mode, so long as the user has appropriate authority.

Re-Design Mode

As shown in FIG. 1, in "Re-Design" 22, the 4u2Design Studio part of the program allows users to retrieve a design that they are authorized to access even though the design has already been published. The user can then edit, re-publish, discard etc. the design, as if they are in design mode, so long as the user has appropriate authority. The user may need permission from the

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supplier, or owner of a collection, such as a storeowner, to re-design a previously published design.

Sampling Mode

As shown in FIGS. 1 and 2, the 4u2Design Studio part of the program allows users to sample 44, 50 a variety of goods in a variety of settings. The user can locate a design using a number of different search criteria, such as store 64, portfolio 60, designer 57, show 62, awards 61, top picks 63, etc. Once a target design 70 has been located, the user can sample it in a number of ways including:

- 1) Automatic Sampling 44 - predefined description and sampling of the design;
- 2) Custom Sampling 72- user makes one or more adjustments to the predefined automatic sampling, such as changing the setting to match the user's preferred setting. For example, clothing can be sampled on an object that resembles the user (assuming that the user inputs the appropriate information during registration) (see 4u2Model part of program FIG. 6);
- 3) Manual Sampling 74 - user exercises full control over how they sample the item.

Purchase Mode

Referring to FIGS. 1 and 2, after the user has sampled the item, he/she can:

- 1) Add the item to their shopping basket 66;
- 2) Order the item 68;
- 3) Return to the store 24; and/or
- 4) Return to the studio 31.

Features of the 4u2Design Studio

The 4u2Design Studio part of the program includes the following unique features for users:

- 1) A simple method to design goods;
- 2) Ability to submit designs for market testing and other users to sample and review;

- 3) Ability to sample one's own simulated designs and simulations of designs by others in different simulated settings;
- 4) Ability to simulate the setting in which a different user will sample the design;
- 5) Ability to purchase one's own designs and designs by others; and
- 6) Ability to get credit based on Frequent Visits under specific conditions.

Benefits of the 4u2Design Studio

The 4u2Design Studio provides the following benefits:

- 1) Empowers casual users to design their own goods and collaborate on designs with others;
- 2) Enables disparate users to combine their designs, for example in a single Portfolio or Store;
- 3) Enables users to sample and purchase designs by other users who they would not otherwise be able to access;
- 4) Empowers an individual to design unique goods when they themselves do not otherwise have access to the necessary design tools;
- 5) Enables individuals to have unique designs manufactured at a lower cost because of a supplier's mass-customization manufacturing options;
- 6) Enables a supplier to outsource, to potential customers, design and product selection;
- 7) Allows suppliers to mass-customize a large number of different offerings;
- 8) Allows users to amass frequent visitor credits while using the 4u2Design system under specific conditions.

Unique Aspects of the 4u2Design Studio

The unique aspects of the 4u2Design Studio program include a combination of the following:

- 1) Gives users the tools to design their own goods in a very easy-to-use manner;
- 2) Enables users to sell their unique designs and buy unique designs from others. This is particularly beneficial in situations where the buyer and seller

would not otherwise have been able to interact due to space, time, financial or other hurdles;

3) Enables users to include their unique designs in a collection, such as a store, portfolio, show, etc., with other complementary designs;

4) Enables users to submit reviews about specific designs and vote for their top designs;

5) Enables small-scale designers to take advantage of mass-customization;

6) Allows the supplier to sell advertising space on their web site to sponsors who want to send Messages to the market segment that will visit the 4u2Design Studio;

7) Allows suppliers to reduce product selection risk by outsourcing product design and selection to potential customers; and

8) Allows users to amass frequent visitor credits under specific conditions.

Description of the SmartFilter Business Model

As shown in the flow chart of FIG. 3, the SmartFilter Business Model, or subprogram of the program of the present invention, allows suppliers to encourage potential customers to design offerings, publish those offerings for review, "vote" on the relative attractiveness of the published offerings and buy the offerings that the supplier decides to sell.

The SmartFilter Business Model allows Suppliers to:

1) Entice potential customers to design and publish offerings in certain product groups;

2) Entice potential customers to filter the offerings submitted in each product group to identify the best designs, or winners and losers in a contest;

3) Obtain rights to the future work of the designers who submit the most commercially attractive offerings;

4) Retain selling rights to all submitted offerings;

5) Retain rights to modify and sell new offerings that are based on that published by the potential customers.

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Application of the SmartFilter Business Model

Suppliers use the SmartFilter Business Model part of the program to outsource product design and product selection to potential customers. This drives down product design costs and reduces the commercial risk associated with product selection. It drives down product design cost because customers design the supplier's products at the customer's own cost. In addition, the SmartFilter Business Model drives down product selection risk because it uses potential customers to "vote" for the best designs thereby identifying the designs that potential customers are most likely to buy.

Benefits of the SmartFilter Business Model

The SmartFilter Business Model:

- 1) Empowers potential customers to design and publish offerings;
- 2) Encourages potential customers to submit new designs by offering periodic rewards for the best designs;
- 3) Encourages potential customers to vote for their favorite designs by offering periodic rewards to voters;
- 4) Encourages successful designers to submit new designs by paying royalties on sales;
- 5) Enables customers to access new and unique designs and designers.

Unique Aspects of the SmartFilter Business Model

The unique aspects of the SmartFilter Business Model include a combination of the following:

- 1) Outsources product design to potential customers;
- 2) Uses rewards, and other methods, to encourage potential customers to submit new designs;
- 3) Outsources product selection to potential customers;
- 4) Uses rewards, and other methods, to encourage potential customers to select the best designs by "voting" for their favorite designs;
- 5) Allows users to sell original goods to potential customers in a marketplace (namely the Internet) that is broad enough to capture significant demand for

unique offerings even in the narrowest niche;

6) Allows disparate designers to collaborate on unique designs and still meet tight submission deadlines.

Description of the 4u2Manufacture Business Model

5 Turning now to FIGS. 4 and 5, there shown are flow charts indicating how the 4u2Manufacture Business Model or part of the program of the present invention allows manufacturers to:

1) Register, with a distributor, their standard prices, lead times and terms for complete designs and components thereof;

10 2) View a list of orders and offer a price, delivery time and terms to fulfill specific orders.

The 4u2Manufacture Business Model also allows Distributors to:

1) Identify manufacturers that are willing to fulfill the distributor's demand for specific orders;

15 2) Encourage manufacturers to bid against each other to drive down wholesale prices, lead-times and improve other supply chain attributes.

Application of the 4u2Manufacture Business Model

The 4u2Manufacture Business Model can be applied in a variety of settings, such as in combination with the 4u2Design Studio shown in FIGS. 1 and 2.

20 For example, the 4u2Design Studio program will create demand for a variety of orders. Those orders will be comprised of different:

1) Product groups;

2) Lot sizes;

3) Components of designs;

25 4) Lead-times;

5) Etc.

The relative importance of these requirements can change with each customer's order. For example, some customers may want the lowest price while others may be willing to pay a higher price for a shorter lead time or higher quality.

30 The distributor may therefore want to select the most appropriate manufacturer

for each order. For example, the relative attractiveness (to a distributor) of different manufacturers depends on their skill set and how that skill set matches the customer's priority of requirements for each order. If a manufacturer has the lowest prices then that manufacturer may be the most appropriate choice for the price sensitive orders. However, if a customer is willing to pay more for a fast turn around time then the manufacturer with the shortest lead time may be the most appropriate choice. Distributors use the 4u2Manufacture Business Model part of the program to get the most appropriate fulfillment contract for each order. This drives down supply chain costs and lead times. Manufacturers use the 4u2Manufacture Business Model part of the program to gain access to orders that they would not otherwise be aware of and to bid for orders that, for them, have a low marginal cost of production because they match existing production runs. A supplier may also be a manufacturer and may choose to fulfill an order from inventory or using just-in-time, or another manufacturing process.

Benefits of the 4u2Manufacture Business Model

The 4u2Manufacture Business Model:

- 1) Empowers distributors to better manage their supply chain characteristics, such as cost, lead-time, etc.;
- 2) Allows distributors to use the most appropriate manufacturer for each order thereby simulating many of the benefits of mass-customization;
- 3) Enables Distributors to drive down their acquisition costs associated with finding the most appropriate manufacturer for each order;
- 4) Empowers manufacturers to find orders that they would not otherwise be able to access;
- 5) Empowers manufacturers to find orders that match existing and planned production runs thereby driving down their marginal cost of production and lead time;
- 6) Drives down the cost of marketing for manufacturers because they have access to ongoing business opportunities.

Unique Aspects of the 4u2Manufacture Business Model

The unique aspects of the 4u2Manufacture Business Model part of the program include a combination of the following:

- 1) Allows distributors to list orders and select the most appropriate manufacturer to fulfill each individual order;
- 2) Makes distributors aware of new manufacturers and their skills as those manufacturers join the group;
- 3) Allows manufacturers to bid on orders that meet one or more of their preferences, such as situations where the order matches an existing or planned production run;
- 4) Gives manufacturers continuous access to new business.

Description of the 4u2Model Business Model

As best shown in the flow chart of FIG. 6, the 4u2Model part of the program allows customers to view designed goods and services in a setting defined by the customer. For example, to sample a simulation of a particular design, a customer can choose to use a mannequin that matches a specific person's looks and their dimensions. Similarly, the customer can construct a simulation of their bedroom to project the effect of new curtains that the customer is planning to buy.

Application of the 4u2Model Business Model

The 4u2Model Business Model part of the program can be used in situations where suppliers and customers want the customer to sample the supplier's offering in settings familiar to, or chosen by, the customer. This is particularly applicable in situations where the customer cannot sample the physical product or actual service, and therefore, uses an e-commerce opportunity such as 4u2Design and 4u2Shop.

Benefits of the 4u2Model Business Model

The benefits of the 4u2Model Business Model part of the program include:

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1) Customers sample a simulation of the offering in their chosen environment thereby reducing their concerns related to matching the offering to its real object, and application, before purchase;

- 5 2) Suppliers can give customers better advice about the suitability of the supplier's goods and services before the customer completes a purchase. This will reduce the chances of customers being dissatisfied with their purchases after fulfillment thereby reducing returns and increasing customer satisfaction. This in turn will reduce the supplier's costs and increase their revenues through increased repeat business from more satisfied customers.

10 **Unique Aspects of the 4u2Model Business Model**

The unique aspects of the 4u2Model Business Model part of the program include a combination of the following:

- 1) Allows customers to sample goods and services in familiar settings before they complete an on-line purchase.
- 15 2) Allows suppliers of online goods and services to give customers better advice about the suitability of their goods and services in the customer's chosen setting.

Those skilled in the art will appreciate that there are adaptations and modifications of the just-described preferred embodiments that can be
20 configured without departing from the scope and spirit of the invention. Therefore, it is to be understood, that within the scope of the intended claims, the invention may be practiced other than is specifically described herein.

CLAIMS**What Is Claimed Is:**

1. A method for providing on-line designing of goods or services comprising the steps of:

maintaining a frequent visitor database for storing frequency visitor information of authorized users;

providing an on-line access to a virtual design studio;

requiring registration of users to the design studio so as to qualify as authorized users;

allowing authorized users to select between a variety of design formats or a shopping mode for existing designs in the virtual design studio;

allowing authorized users in one of the variety of design formats access to preexisting design elements maintained in a design element database to aid in forming a design in a selected design format, or allowing authorized users to add their own design elements to a selected design format; and

receiving acceptable designs from authorized users for storage of the acceptable designs in a storage database.

2. The method of claim 1, further comprising the step of allowing authorized users to discard unacceptable designs, or publish acceptable designs.

3. The method of claim 2, further comprising the step of allowing users to select between a new design format, a continue existing design format, or a redesign of a stored design format.

4. The method of claim 3, further comprising the step of allowing authorized users to order an acceptable design from a supplier.

5. The method of claim 4, further comprising the step of allowing a supplier to manufacture, or have manufactured, the acceptable design.
6. The method of claim 5, further comprising the step of signing-up acceptable manufacturers by the supplier.
7. The method of claim 1, further comprising the step of sampling a design in a created object before entering the design studio.
8. The method of claim 1, further comprising the step of allowing a supplier to discard published designs that are unattractive to a market place.
9. A method for providing on-line designing of goods or services comprising the steps of:
 - providing an on-line access to a design studio web site;
 - requiring registration of users to the design studio web site so as to qualify as authorized users;
 - maintaining a frequent visitor database associated with the registration of users, for storing frequency of visits information by authorized users;
 - allowing authorized users to select between a new design mode, a continue existing design mode, a redesign mode, or a shopping mall mode for examination of existing designs; and
 - accepting orders of select designs from an authorized user.
10. The method of claim 9, further comprising the step of allowing authorized suppliers to accept the orders and to manufacture or have manufactured the selected designs.
11. The method of claim 10, further comprising the step of signing-up acceptable manufacturers by the supplier.

12. The method of claim 11, further comprising the step of allowing authorized users to discard unacceptable designs, or publish acceptable designs.

13. The method of claim 12, further comprising the step of sampling a design in an environment created by the user before entering the design studio web site.

14. A method for providing on-line designing of goods or services comprising the steps of:

- providing an on-line access to a virtual design studio program having a full set of design tools;

- requiring registration of users to the design studio program to qualify such users as authorized users;

- maintaining a frequent visitor database associated with the registration of users, for storing frequency of visits information by authorized users and amassing credits for such frequency of visits;

- allowing authorized users to select between various design formats in the design studio program; and

- accepting orders of select designs from an authorized user.

15. The method of claim 14, further comprising the steps of allowing authorized users to discard unacceptable designs, publish acceptable designs, or to order acceptable designs.

16. The method of claim 15, further comprising the step of allowing users to select between a new design format, a continue existing design format, a redesign of a stored design format, or a shopping mall of existing designs.

17. The method of claim 16, further comprising the step of allowing authorized users to order an acceptable design from a supplier.

18. The method of claim 17, further comprising the step of allowing a supplier to manufacture, or have manufactured, the acceptable design.

19. The method of claim 18, further comprising the step of signing-up acceptable manufacturers by the supplier.

20. The method of claim 19, further comprising the step of sampling a design in a created object before entering the design studio.

21. The method of claim 14, further comprising the step of allowing authorized suppliers to accept the orders of acceptable designs and to manufacture or have manufactured the selected designs.

22. The method of claim 21, further comprising the step of signing-up acceptable manufacturers by the authorized suppliers.

23. The method of claim 21, further comprising the step of allowing authorized suppliers to discard published designs that are unattractive to a market place.

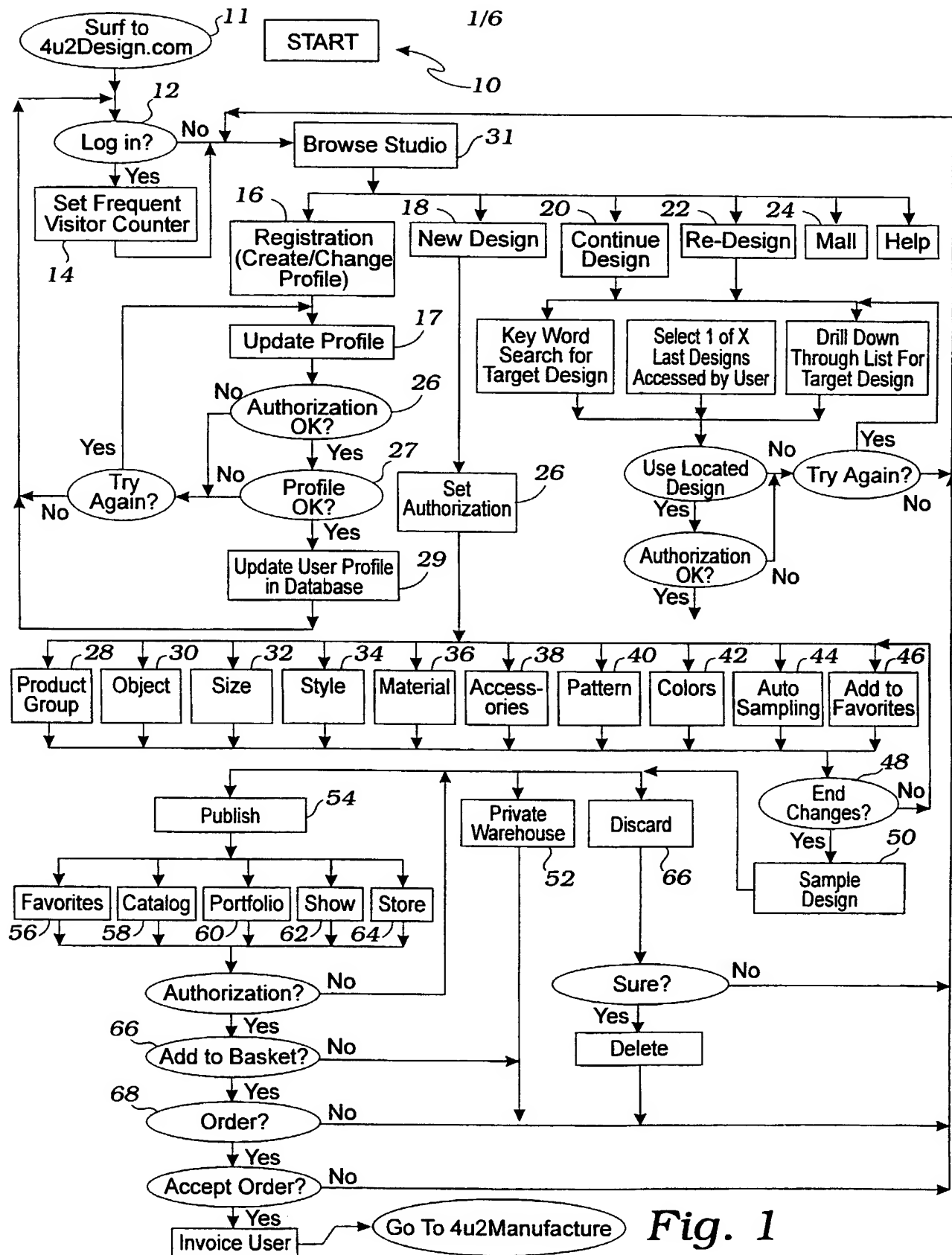
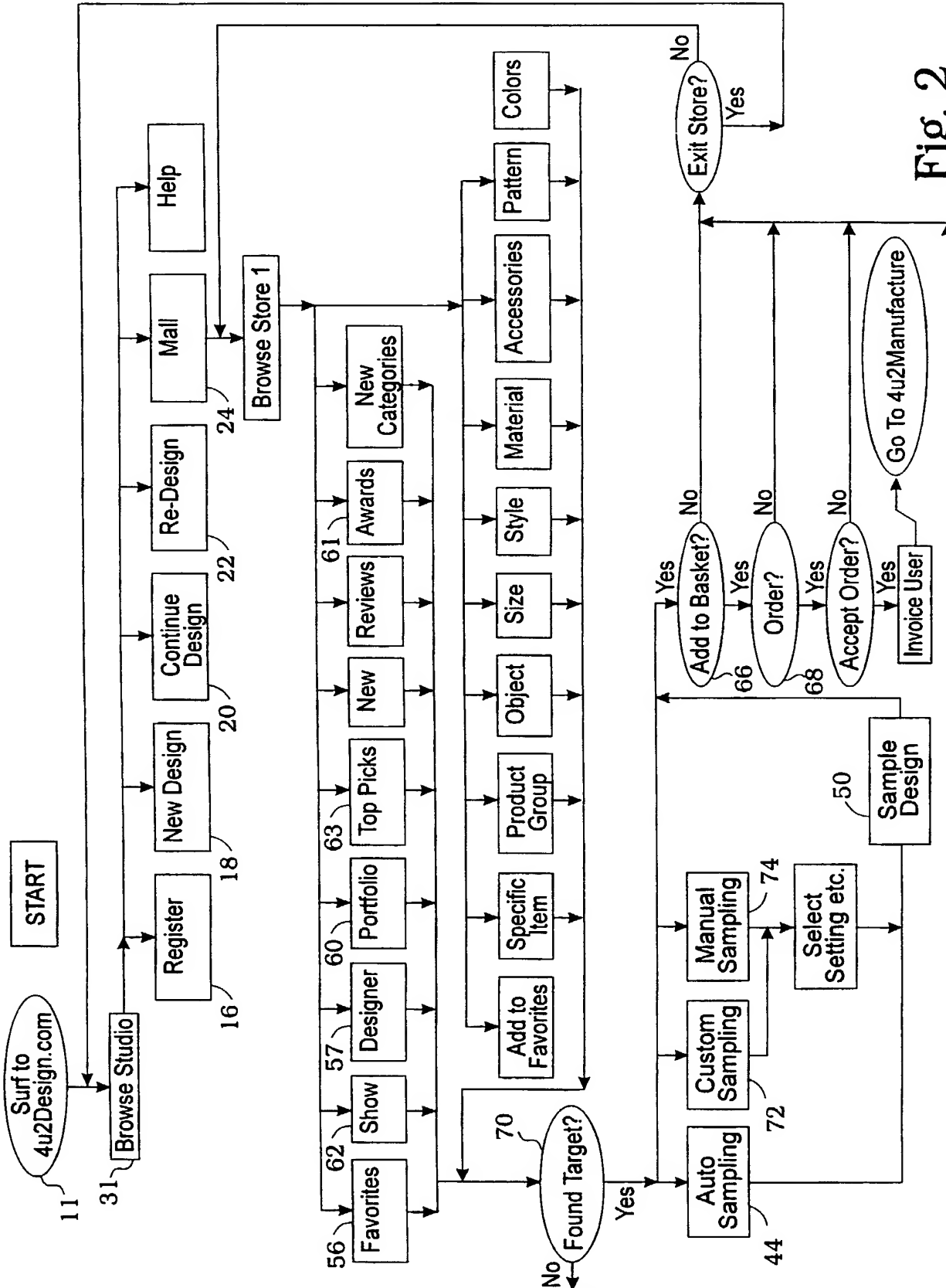
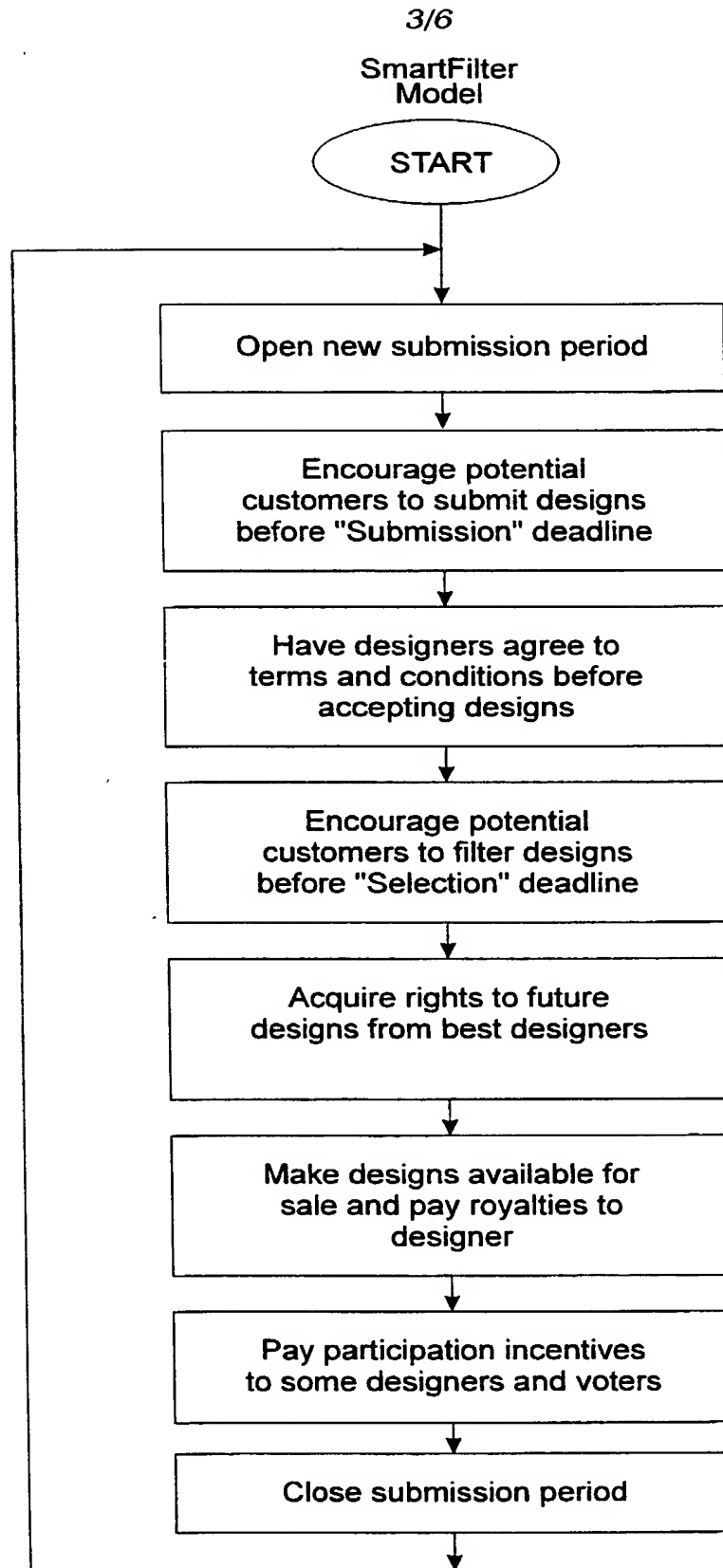
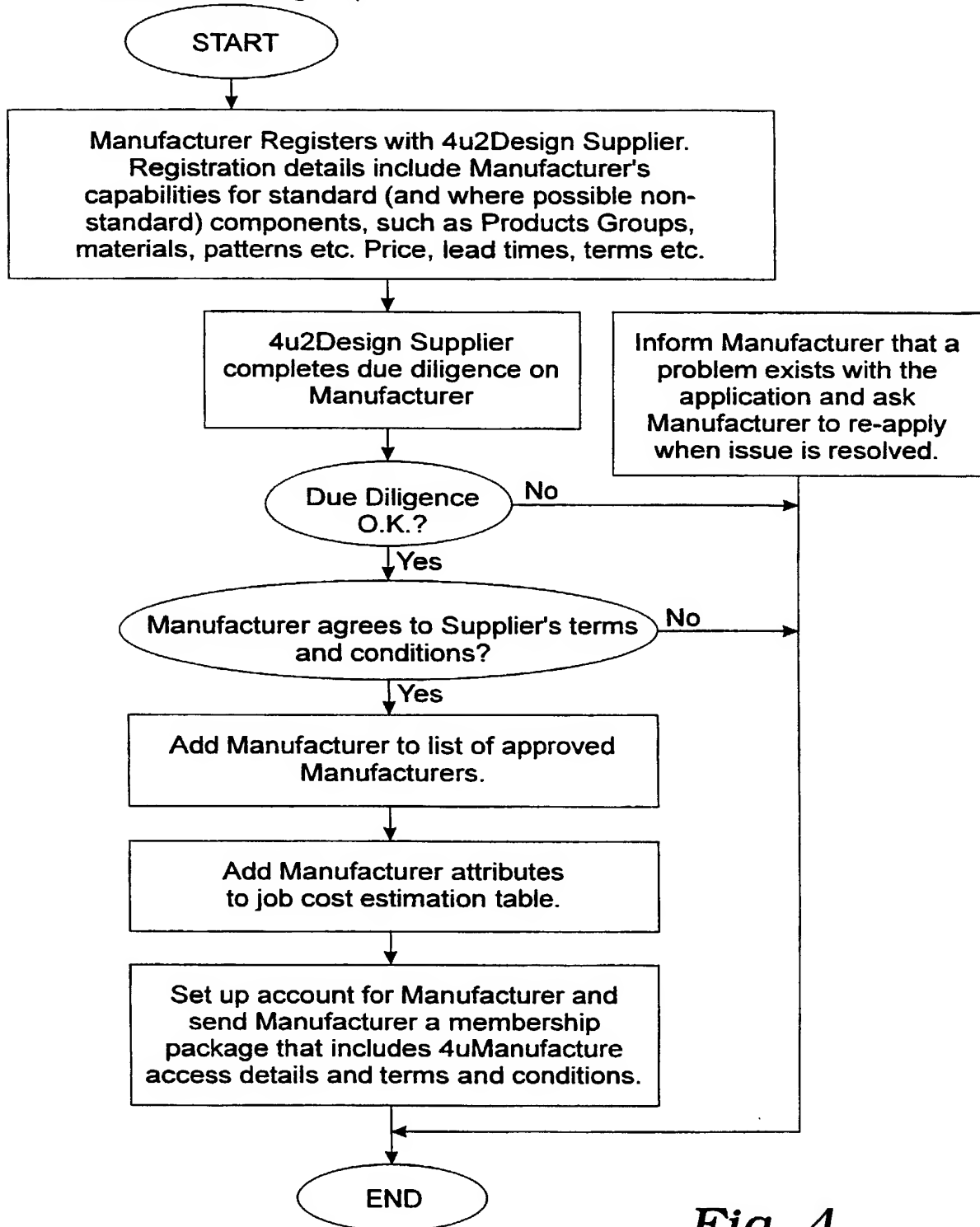


Fig. 1



*Fig. 3*

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**4u2Manufacture Business Model
Manufacturer Sign-Up***Fig. 4*

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4u2Manufacture Business Model
Order Bidding

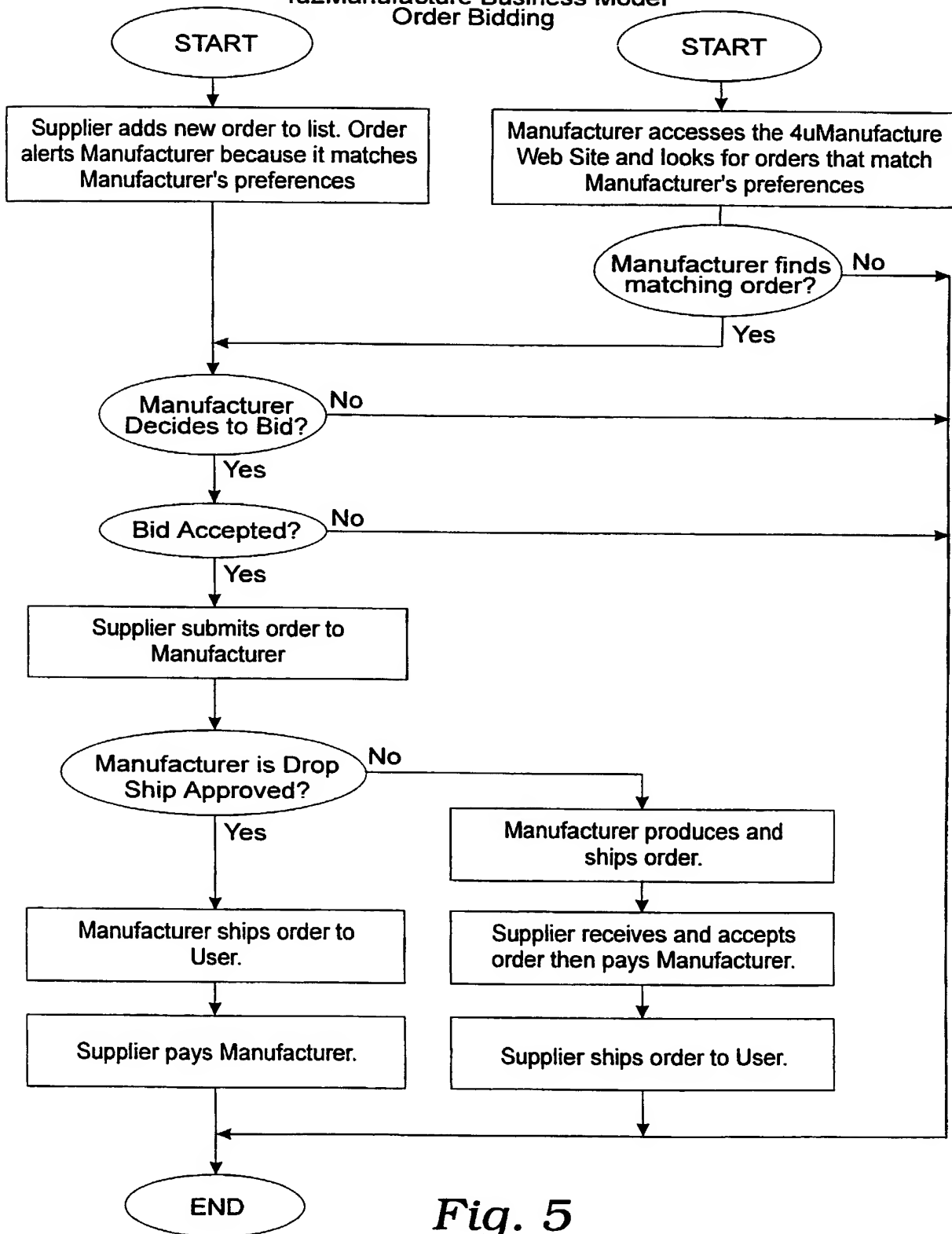


Fig. 5

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4u2Manufacture Business Model - Assemble an Object

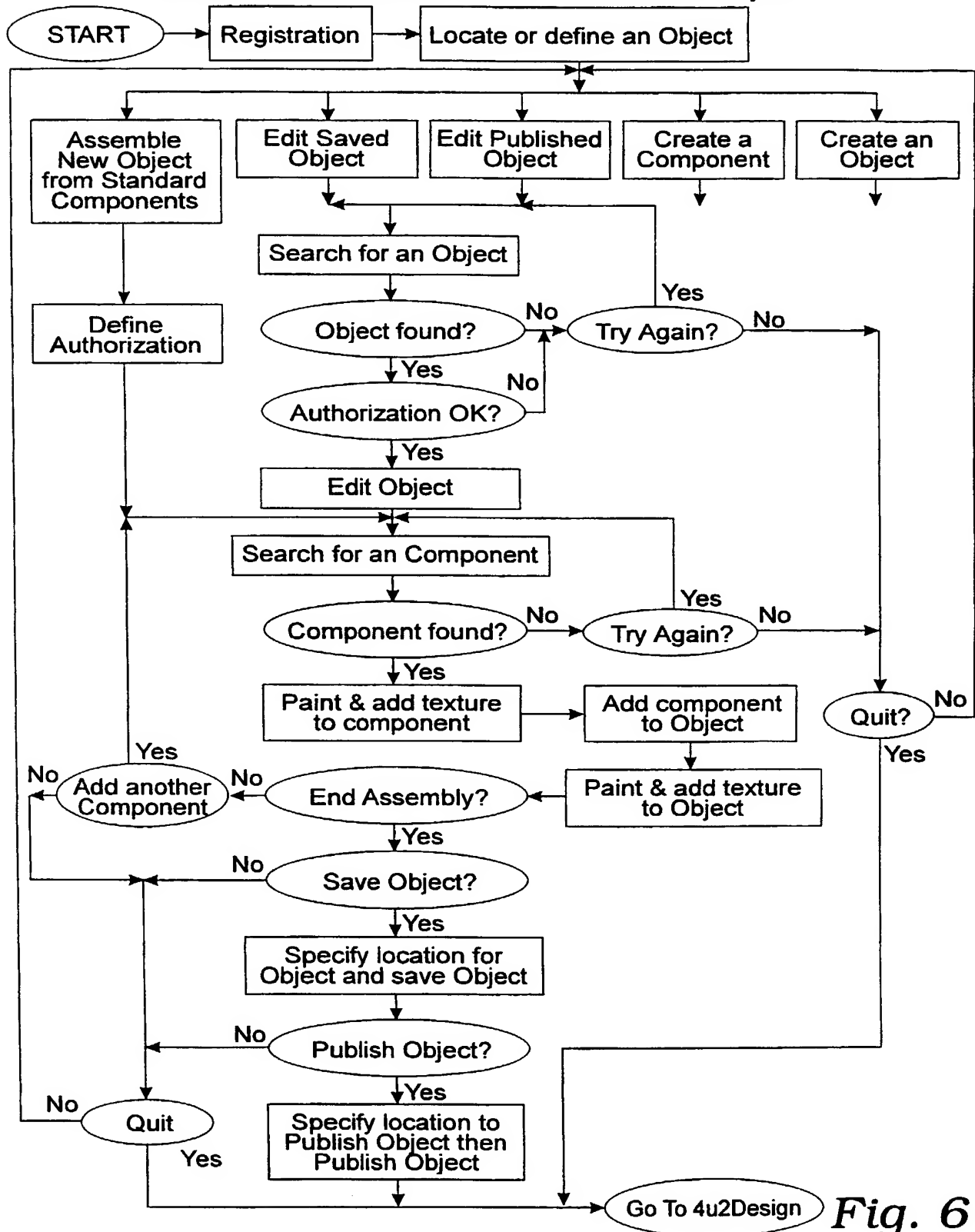


Fig. 6

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DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63) <input checked="" type="checkbox"/> Declaration Submitted with Initial Filing OR <input type="checkbox"/> Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16(e)))	Attorney Docket Number	00977-US
	First Named Inventor	MARK LAWRENCE
	COMPLETE IF KNOWN	
	Application Number	/
	Filing Date	CONCURRENTLY
	Group Art Unit	
	Examiner Name	

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

VIRTUAL DESIGN STUDIO SYSTEM

the specification of which (Title of the Invention)

☐ is attached hereto
OR
☒ was filed on (MM/DD/YYYY) 08/16/2000 as United States Application Number or PCT International Application Number PCT/US00/22442 and was amended on (MM/DD/YYYY) (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application	Foreign Filing Date	Priority	Certified Copy Attached?	
			YES	NO
PCT/US00/22442	08/16/2000	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)
60/149,105	08/16/1999

☐ Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

[Page 1 of 2]

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DECLARATION ---- Utility or Design Patent Application

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application

U.S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)
PCT/US00/22442	08/16/2000	

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As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transmit all business in the Patent and Trademark Office connected therewith: ☒ Customer Number 22145 

☐ OR
☐ Registered practitioner(s) name/registration number listed below:

Name	Registration Number	Name	Registration Number
JAMES G. O'NEILL	22,858		22145

☐ Additional registered practitioner(s) named on supplemental Registered Practitioner information sheet PTO/SB/02C attached hereto

Direct all correspondence ☒ Customer Number or Bar 22145 OR ☐ Correspondence address below

Name	JAMES G. O'NEILL				
Address	3151 AIRWAY AVENUE, SUITE K-105				
Address					
City	COSTA MESA	State	CA	ZIP	92626
Country	USA	Telephone	714/549-8609	Fax	714/549-8626

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon

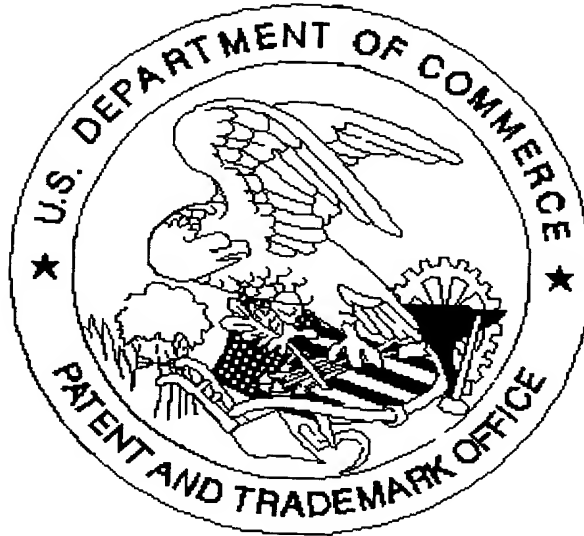
Name of Sole or First Inventor: ☐ A petition has been filed for this unsigned inventor

Given Name (first and middle [if any])	Family Name or Surname
MARK	LAWRENCE

Inventor's Sign.	<i>M Lawrence</i>			Date	1/22/02
Residence: City	ALHAMBRA	State	CA	Country	USA
Post Office Address	251 JEANELL DRIVE				
Post Office Address	SUITE 3				
City	CARSON	State	NV	ZIP	89703
				Country	USA

☐ Additional inventors are being named on the _____ supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached

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